






**Railroad
Solutions**

*Our innovation Keeps Your
Train Rolling*

 (678) 722-5261

 sales@acsrail.com

 www.acsrail.com

**Rugged Video Capture Systems for
the Rail Industry, from**


VISIBLY BETTER



Train video data is far too important to trust it to out-of-date technology

Video footage captured from locomotives is now an integral part of Railroad operations, both for accessing live feeds and having a video record when an event occurs

In the 20 years since cameras began being deployed on locomotives, the technology has significantly evolved. There is a good chance your fleet is still outfitted with:

- Low Res/Low Def cameras
- Unreliable hard drive storage
- A lack of options for accessing the footage
- An insufficient amount of cameras (i.e. none recording inside the cab)
- A video capture system no longer supported by the vendor

Pro-Vision video capture systems represents a state-of-the-art solution, proven in multiple other transit and harsh-duty applications, and is backed by a **5 year warranty**

Pro-Vision Video Capture systems can provide a wide variety of essential operational information



Forward Facing

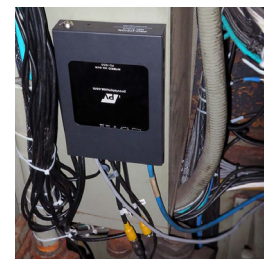
- Track conditions including buckles and washouts
- Obstructions
- Crossings
- Engineer POV



Interior

- Capture all activity inside the cab
- Critical information for fault determination should an event occur
- Proactively correct unsafe or other problem behaviors

Utilizes Best in Class Hardware



- Interior, forward facing and external cameras
- 1080p High Definition video capture
- Two properly positioned interior cameras can provide 360 degree coverage in the cab

- Solid State DVR
- Supports 3 cameras and provides 30 days of storage
- Low-profile design saves space inside the locomotive
- Lockable file storage to prevent tampering

Your video data - How, When and Where you want it



Many video capture companies that serve the rail industry lock you into their proprietary systems, typically bundling it with their event recorder. The footage ultimately ends up in their Cloud. This approach not only limits how you can incorporate the data but requires pricey ongoing subscription fees.

Since Pro-Vision believes it's your data, we use a data agnostic platform with multiple Telemetric access options, that adapts to how you operate. The result is streamlined video retrieval for your internal stakeholders.

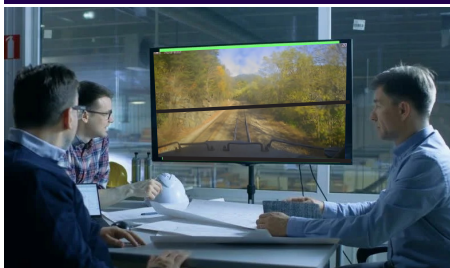
Data transfer flexibility is derived from use of an open Application Programming Interface. The API provides a well known method to easily integrate into back-end dashboards.

The Pro-Vision video capture system is acquired via capital purchase, with optional installation, meaning your team can access the data as much as they need, **without any ongoing subscription fees.**

Pro-Vision enables Railroads to manage and maintain their own data



Transportation Teams



- React in real-time with Engineers to advise and assist while they are on the road
- Gain deeper insight to increase operation efficiency
- Facilitate FRA compliance

Standard and Customizable Recording Options

- Continuous recording capability
- Event based recording - harsh cornering, acceleration, braking
- Customer sensor based triggers - lights, doors mechanical arms activated

Legal Teams



- Video evidence can be a crucial piece of the investigative process
- Directly apply video in a courtroom setting

Multiple Methods for Pulling Video

- Manual upload via SD card
- Wi-Fi or Cellular 4G, with automatic event upload
- GPS support to stamp when/where the video was captured
- Open API facilitates data transfer to a Crash Hardened Memory module
- Files are stored in .avi format, enabling playback with commonly available tools

Forward Facing Camera Specifications

Imaging	Sensor	1/2.8" Color CMOS
	Effective Pixels	1080p (1920 x 1080) AHD
	Field of View	130°
	Low-Light Rating	0.1 Lux
	Wide Dynamic Range	Yes - 120dB
	Audio	Yes - Built-in Microphone

Physical	Waterproofing	Rated IP69K under IEC standard EN 60529
	Operating Temperature	-4°F to 158°F RH95% (-20°C to 70°C RH95%)
	Storage Temperature	-22°F to 176°F RH95% (-20°C to 70°C RH95%)
	Anti-Vibration (Shock) Rating	Max 17.3G, meets ISO16750-3

Materials	Lens	Glass
	Housing	Extruded Aluminum

Dimensions	Length	1.9"
	Width	2.1"
	Height	1.8"

Interior Camera Specifications

Imaging	Sensor	½ Color Sony CMOS
	Effective Pixels	1080p (1920 x 1080) AHD
	Image	Non-Mirrored
	Field of View	170°
	Audio	Yes

Night Vision	Low Light Rating	0 Lux at 16'
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Durability	Waterproof	Yes
	Shock rating	17.3G
	Operating Temperature	All Climates
	Working Power	12V DC

Materials	Lens	Glass
	Housing	Extruded Aluminum

Dimensions	Diameter	2.08"
	Height	1.56"

Solid State DVR Specifications

Storage	Up to 2TB Solid-State Drive and 512GB SDXC Memory Card
Inputs	6 – 2 Digital HD – 4 Analog HD/SD
Sensors	3 Axis Accelerometer (G-Force) GPS Receiver Custom Event Triggers
Networking	Wi-Fi Access Point Network Port Optional 4G Modem
Dimensions	5.4"(L) x 5.2"(W) x 1.2"(H) 16.5oz (1.03 lbs.)
Security	Secure Locking Steel Cage Password Protected DVR Wi-Fi
Format	AVI - Non-Proprietary/Universal

Pro-Vision and ACS Railroad Solutions are a winning team bringing optimized video capture to the Rail industry



Founded in 2003, Pro-Vision is a leading video technology solutions provider trusted by thousands of organizations in 58 countries. Pro-Vision solutions include vehicle video recording systems, body-worn cameras, data management and cloud-based storage solutions. Pro-Vision acquired the Zone Defense brand of commercial and industrial-grade products in 2020, joining together Pro-Vision advanced mobile digital recording systems and software with the industrial grade and additional viewing options created by Zone Defense. Pro-Vision transit, law enforcement and commercial partners utilize these solutions to enhance safety, increase productivity and protect critical assets. For more information, visit provisionusa.com.



Railroad Solutions

ACS-RS partners with leading technology companies to bring cutting-edge innovation to the Rail industry. Our portfolio of products & services positively impact core value drivers such as Operational Efficiency, Sustainability, Employee Safety and Well-Being and Regulatory Compliance for Railroads of all sizes.



Railyard Devices

Tools and solutions used by maintenance crews to perform their jobs more efficiently and ensure Power is always ready to roll



Locomotive Enhancements

Add-ons to your existing fleet to modernize and automate locomotive operation and maximize the value of your PTC systems



Connectivity

A range of cables, antennas, converters and specialty products that facilitate both in-cab and remote data acquisition



Idle Reduction

Lithium Ion Battery Technology can power key systems when a locomotive is not in use, and reduce idle time by 74%